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10/053,697	01/24/2002	Tetsuya Matsui	381HI/50780	7835

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EXAMINER

BORISSOV, IGOR N

ART UNIT PAPER NUMBER

3639

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/053,697	<b>Applicant(s)</b> MATSUI ET AL.	
	<b>Examiner</b> Igor Borissov	<b>Art Unit</b> 3639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Amendment received on 12/23/2005 is acknowledged and entered. Claim 13 have previously been canceled. Claims 1 and 6-9 have been amended. Claims 1-12 and 14-18 are currently pending in the application.

### ***Examiner's Note***

Claims 5, 17 and 18. Examiner understands the phrase: "said release information is represented in graph format, table format, or with functional equations, or is represented by a combination of these formats for each equipment that is used in said certain process" as "said release information is represented in at least one of graph format, table format, or with functional equations, or is represented by a combination of these formats for each equipment that is used in said certain process".

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 and 14-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1. The independent system Claim includes "wherein" clause (page 3 of the Applicant's amendment), reciting:

"wherein said release rate database stores the information related to said release rates for each equipment that is used in said certain process, said release rates are set based on the release information that prescribes the relationship of the release amounts to each release-transfer destination of the chemical substances as said control target with respect to the input amounts of the materials that are input into said each equipment used in said certain process; and

said server configured to calculate, for said each equipment, environmental performance information that evaluates environmental effects due to discharging the release amounts calculated of

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said chemical substances as said control target and/or investment effectiveness information related to the costs for reducing said chemical substances as said control target that are released.”

However, MPEP 2106 (II) (C) states:

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) “adapted to” or “adapted for” clauses,
- (C) “wherein” clauses, or
- (D) “whereby” clauses.

This list of examples is not intended to be exhaustive. >See also MPEP § 2111.04.<

Therefore, it is not clear whether the limitations recited in the “wherein” clause are part of the claimed invention, or not.

Claim 12. The independent method Claim is confusing, because the Claim reads as a preamble with no method steps recited that makes up a process. The Claim indicates that said *environmental performance improvement support method* comprises five processes, and indicates intended use of each process without reciting actual method steps constituting said processes. Furthermore, the Claim as a whole appears to state only its intended use. It is not clear what part of the Claim is mere intended use (i.e. preamble) and which parts constitute the novel features for performing the recited functionality.

Furthermore, the description of each process is vague and indefinite. For example, the “process 2” is defined as a process “which utilizes a server to identify the chemical substances that compose the materials to be input in a certain process based

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on said material composition database". It is not clear what method steps the term "utilizing a server to identify the chemical substances" actually contemplates, what method steps said "identification" includes, and to what extent said server is utilized in said method.

Same reasoning applied to the remaining Claims.

### **Claim Rejections - 35 USC § 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 12 and 14 are rejected under 35 U.S.C. 101** because the claimed invention is directed to non-statutory subject matter.

In determining whether the claimed subject matter is statutory under 35 U.S.C. 101, a practical application test should be conducted to determine whether a "useful, concrete and tangible result" is accomplished. See *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1359-60, 50 USPQ2d 1447, 1452-53 (Fed. Cir. 1999); *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600 (Fed. Cir. 1998).

An invention, which is eligible or patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". The test for practical application as applied by the examiner involves the determination of the following factors"

(a) "Useful" – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

- i. the utility need not be expressly recited in the claims, rather it may be inferred.

ii. if the utility is not asserted in the written description, then it must be well established.

(b) "Tangible" – Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(c) "Concrete" – Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

The claims, as currently recited, appear to be directed to nothing more than a series of steps including collecting, providing, creating and re-optimizing data (prices) without any useful, concrete and tangible result and are therefore deemed to be non-statutory. While these numbers may be concrete and/or tangible, there does not appear to be any useful result.

As per Claims 12 and 14, the invention, as defined by the claims and as best understood merely manipulate an idea or performing a mathematical algorithm without any limitation to a practical application in the technological arts. The invention is implemented on a computer; therefore, the invention is directed to the technological arts. However, the claimed invention just manipulates data representing chemical substances or equipment.

The invention does not require physical acts to be performed outside the computer independent of and following the steps to be performed by a programmed computer, where those acts involve the manipulation of tangible physical objects and result in the object having a different physical attribute or structure. See *Diamond v. Diehr*, 450 US at 187, 209 USPQ at 8. The steps of computer processing data

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representing “evaluating” data (chemical substances or equipment) do not impose independent limitations on the scope of the claim beyond those required by the mathematical operation and abstract limitations because the “evaluating” data are not actual measured values of physical phenomena. *In re Galnovatch*, 595 F.2d at 41 n.7, 201 USPQ at 145 n.7; *In re Sarker*, 588 F.2d at 1331, 200 USPQ at 135. The steps of “evaluating” have no direct effect on the physical world outside the computer. Thus, the claimed invention merely inputs data into the system and performs a mathematical algorithm without any limitation to a practical application as a result of the algorithm or outcome and is therefore deemed to be non-statutory.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankland et al. (US 2002/0026339 A1) in view of Fasca (US 2002/0065581 A1).**

Frankland et al. (hereinafter Frankland) teaches a system for managing changes in regulatory requirements for business activities at an industrial facility, comprising:

#### **Independent Claim**

**Claim 1.** A server and a plurality of databases containing information on chemical and physical properties of materials used at a facility, including hazards associated with said materials, ecology-toxicity and environmental release information [0050]; [0416]; [0417], wherein said server is configured to set the release amounts to each release-transfer destination of chemical substances that compose said materials based on the types and input amounts of the materials that are input in a certain

process, information for improving the environmental performance, according to information on these chemical substances that are released, the release amounts to each release-transfer destination of chemical substances that compose said materials and track hazardous materials and wastes, including movement and environmental releases [0417]; [0419]; evaluate environmental effects due to discharging the hazardous materials and wastes during the releases [0417]; [0419].

**Claim12.** Frankland teaches a system and method for managing changes in regulatory requirements for business activities at an industrial facility, comprising:

identifying the chemical substances of the materials used [0416];

identifying environmental hazards associated with materials used [0416];

tracking hazardous materials and wastes, including movement and environmental releases [0417]; [0419];

evaluating environmental effects due to discharging the hazardous materials and wastes during the releases [0417]; [0419].

Frankland does not specifically teach evaluating equipment that reduces chemical substances released.

Fasca teaches a system and method for reviewing historical data and performing forecasting simulations relating to pollutant emissions from power plant, wherein various pollution reducing equipment are considered [0044].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Frankland to include evaluating the equipment that reduce chemical substances released, as disclosed in Fasca, because it would advantageously allow managers of the industrial facility to find the best solution to meet the pollution generation threshold to comply with governmental regulations, as specifically stated in Fascal [0006].

#### **Dependent Claims**

**Claims 2.** Said system, comprising: a database containing information on hazards associated with said materials, ecology-toxicity and environmental release



information [0416]; [0417]. Information as to the specific content of said information does not recite a structural limitation and, therefore, is given no patentable weight. MPEP 2106 (II) (C) states: "*Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.*" Furthermore, Claims Directed to an Apparatus must be distinguished from the prior art in terms of structure rather than function, *In re Danly* 263 F.2d 844, 847, 120 USPQ 528-531 (CCPA 1959). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (bd Pat. App. & Inter. 1987).

Thus the structural limitations of Claim 3 are disclosed in Frankland as described herein. Also as described the limitations of the claim do not distinguish the claimed apparatus from the prior art.

**Claim 3.** Said system, including a database containing information including investment effectiveness including considering cost related to environmental health and safety regulations [0034]; [0037].

**Claims 4.** Said system, comprising: a plurality of equipment; and said database contains information related to investment and environmental compliance effectiveness [0034]; [0421]. (Examiner understands the word *equipment* as encompassing plural items used in operation or activity. See: Merriam-Webster's Collegiate Dictionary; 10<sup>th</sup> ed.)

**Claims 5.** Said system, comprising: a database containing environmental release related information, which is represented in table format [0430].

**Claims 6-8.** Said system, comprising: a server and a plurality of databases containing information on chemical and physical properties of materials used at a facility, including hazards associated with said materials, ecology-toxicity and environmental release information [0050]; [0416]; [0417], wherein said system is configured to set the release amounts to each release-transfer destination of chemical substances that compose said materials based on the types and input amounts of the

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materials that are input in a certain process, and track hazardous materials and wastes, including movement and environmental releases [0417]; [0419]; evaluate environmental effects due to discharging the hazardous materials and wastes during the releases [0417]; [0419].

**Claim 9.** See reasoning applied to Claim 12.

**Claim 10.** Fasca teaches said system, wherein investment effectiveness information is based on at least one item from among the processing performances, equipment costs, and operation costs of equipments that reduce chemical substances, which are provided by the enterprisers that manufacture the equipments which reduce the chemical substances [0066]. The motivation to combine Frankland and Fasca would be to advantageously identify the pollution reduction scenario that results in emissions below the mandated emissions caps and that has the least negative impact on the company's profits, as specifically stated in Fasca [0066].

**Claim 11.** Frankland teaches said system, wherein the equipment-specific release rate information provided by said enterprisers prescribes the relationship of the release amounts to each release-transfer destination of chemical substances that correspond to the input amounts of the materials that are input into equipments [0417]; [0419].

**Claim 14.** Frankland teaches tracking hazardous materials and wastes, including distribution and use of the materials at the facility; and evaluating environmental effects due to discharging the hazardous materials and wastes during the releases [0419], thereby obviously indicating monitoring environmental effects in the case the equipment is installed.

**Claim 15.** Frankland teaches said system, comprising: a plurality of equipment; and said database containing information related to investment and environmental compliance effectiveness [0034]; [0421]. (Examiner understands the word *equipment* as encompassing plural items used in operation or activity. See: Merriam-Webster's Collegiate Dictionary; 10<sup>th</sup> ed.)

**Claim 16.** Said system, comprising: a plurality of equipment; and said database contains information related to investment and environmental compliance effectiveness

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[0034]; [0421]. (Examiner understands the word *equipment* as encompassing plural items used in operation or activity. See: Merriam-Webster's Collegiate Dictionary; 10<sup>th</sup> ed.)

**Claim 17.** Said system, comprising: a database containing environmental release related information, which is represented in table format [0430].

**Claim 18.** Said system, comprising: a database containing environmental release related information, which is represented in table format [0430].

### ***Response to Arguments***

Applicant's arguments with respect to Claims 1-12 and 14-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igor Borissov whose telephone number is 571-272-6801. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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IGOR N. BORISSOV  
PRIMARY EXAMINER

